

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (*Currently Amended*) A circuit for conditioning a power supply having a current-voltage characteristic that is an exponential function for which a graph of the power supplied as a function of the voltage at the terminals of said power supply features a maximum power point, said conditioning circuit comprising:

[[ - ]] a power cell with one input that is adapted to be supplied with power by said power supply and one output that supplies adapted to supply power to a load, and

[[ - ]] a control circuit for controlling said power cell via by means of a control signal applied to said power cell to slave the input voltage of said power cell, wherein

~~in which conditioning circuit, the current-voltage characteristic of said power source being an exponential function,~~ said control circuit comprisesincludes:

[[ - ]] calculation means comprising means for receiving instantaneous measurements of points on said current-voltage characteristic and a program that determines said exponential function adapted to determine the equation of said current-voltage characteristic using a predetermined first method on the basis of four points on said current-voltage the characteristic and determines a reference voltage to determine said maximum to serve as an operation reference by a second method, and

[[ - ]] control means for supplying said control signal representative of the difference between the ~~required~~ reference voltage calculated by said calculation means module and an ~~the~~ instantaneous voltage at the output of the power supply so as to cancel out said control signal.

2. (*Currently Amended*) The circuit claimed in claim 1 wherein, said current-voltage characteristic of said power supply being of the form:

$$i = i_{sc} - i_r(\exp(av) - 1),$$

said calculation means determines ~~first method is adapted to determine~~ the parameters of the above equation from the following equations:

$$a = \frac{1}{v_1 - v_2} \text{Log}\left(\frac{di_1}{di_2} \frac{dv_2}{dv_1}\right)$$

$$i_r = -\frac{di}{dv} \frac{1}{a \exp(av)}$$

$$i_{sc} = i - i_r(\exp(av) - 1).$$

3. (*Currently Amended*) The circuit claimed in claim 1 wherein said calculation means determines said reference voltage using ~~second method adapted to determine said maximum uses~~ the Newton-Raphson method applied to said exponential function ~~the equation of said~~ current-voltage characteristic.

4. (*Currently Amended*) The circuit claimed in claim 1, further comprising ~~including a~~ current sensor that measures an ~~adapted to supply the~~ instantaneous current in a regular manner and wherein said calculation means launches ~~module is adapted to launch~~ said program when a ~~as soon as the~~ current variation between the instantaneous current and a ~~the~~ maximum power point current exceeds a ~~the~~ predetermined threshold.

5. (*Currently Amended*) The circuit claimed in claim 1, wherein said control circuit comprises ~~includes an~~ adder for comparing the instantaneous voltage at the output of said power supply and the reference voltage generated by said calculation means, said adder delivering at its output a signal representative of the difference between the latter magnitudes at the input of said control means.

6. (*Currently Amended*) A solar generator comprising a power supply for which a graph of the power supplied as a function of the voltage at the terminals of said power supply features a maximum power point, wherein said ~~which~~ solar generator is adapted to be conditioned by the circuit claimed in claim 1.

7. (*Currently Amended*) A method of using a conditioning circuit to condition a power supply having a current-voltage characteristic that is an exponential function for which a graph of the power supplied as a function of the voltage at the terminals of said power supply features a maximum power point, said conditioning circuit comprising:

[[ - ]] a power cell with one input that is adapted to be supplied with power by said power supply and one output that supplies adapted to supply power to a load, and

[[ - ]] a control circuit for controlling said power cell via ~~by means of~~ a control signal applied to said power cell to slave the input voltage of said power cell, wherein said

~~which conditioning method comprises includes, the current voltage characteristic of said power source being an exponential function:~~

[[ - ]] a step of determining said exponential function ~~the equation of~~ said current-voltage characteristic using a ~~predetermined first method and~~ four points on said current-voltage characteristic,

[[ - ]] a step of determining a reference voltage ~~using a second method to determine said maximum to serve as an operation reference~~, and

[[ - ]] a step of transmitting said control signal representative of the difference between the calculated reference voltage and an ~~the~~ instantaneous voltage at the output of said power supply so in such a manner as to cancel out said control signal.

8. (*Currently Amended*) The method claimed in claim 7 wherein, said current-voltage characteristic of said power supply being of the form:

$$i = i_{SC} - i_R(\exp(av) - 1),$$

wherein said first method is adapted to determine the parameters of the above equation are determined from the following equations:

$$a = \frac{1}{v_1 - v_2} \text{Log}\left(\frac{di_1}{di_2} \frac{dv_2}{dv_1}\right)$$

$$i_R = -\frac{di}{dv} \frac{1}{a \exp(av)}$$

$$i_{SC} = i - i_R(\exp(av) - 1).$$

9. (*Currently Amended*) The method claimed in claim 7 wherein said determination of said reference voltage second method adapted to determine said maximum uses the Newton-Raphson method applied to said exponential function the equation of said current-voltage characteristic.

10. (*Currently Amended*) The method claimed in claim 7 wherein [[,]] said conditioning circuit further comprises including a current sensor that measures an adapted to supply the instantaneous current in a regular manner, wherein said method determines said exponential function and said reference voltage launches said program as soon as a the current variation between said instantaneous current and said current corresponding to said maximum power point exceeds a predetermined threshold.

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11. (*Currently Amended*) The method claimed in claim 7, wherein said method ~~program~~ uses four points on said current-voltage characteristic, one of which is said maximum power point, and the other three points being obtained by application of successive voltage levels at the output of said power cell ~~calculation means~~ and by sensing corresponding currents.